



# Pacific Island Network Vital Signs Monitoring Plan: Phase III Report

## Appendix P: Protocol Implementation Schedule

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### Pacific Island Network (PACN)

#### **Territory of Guam**

War in the Pacific National Historical Park (WAPA)

#### **Commonwealth of the Northern Mariana Islands**

American Memorial Park, Saipan (AMME)

#### **Territory of American Samoa**

National Park of American Samoa (NPSA)

#### **State of Hawaii**

USS Arizona Memorial, Oahu (USAR)

Kalaupapa National Historical Park, Molokai (KALA)

Haleakala National Park, Maui (HALE)

Ala Kahakai National Historic Trail, Hawaii (ALKA)

Puukohola Heiau National Historic Site, Hawaii (PUHE)

Kaloko-Honokohau National Historical Park, Hawaii (KAHO)

Puuhonua o Honaunau National Historical Park, Hawaii (PUHO)

Hawaii Volcanoes National Park, Hawaii (HAVO)

<http://science.nature.nps.gov/im/units/pacn/monitoring/plan/>

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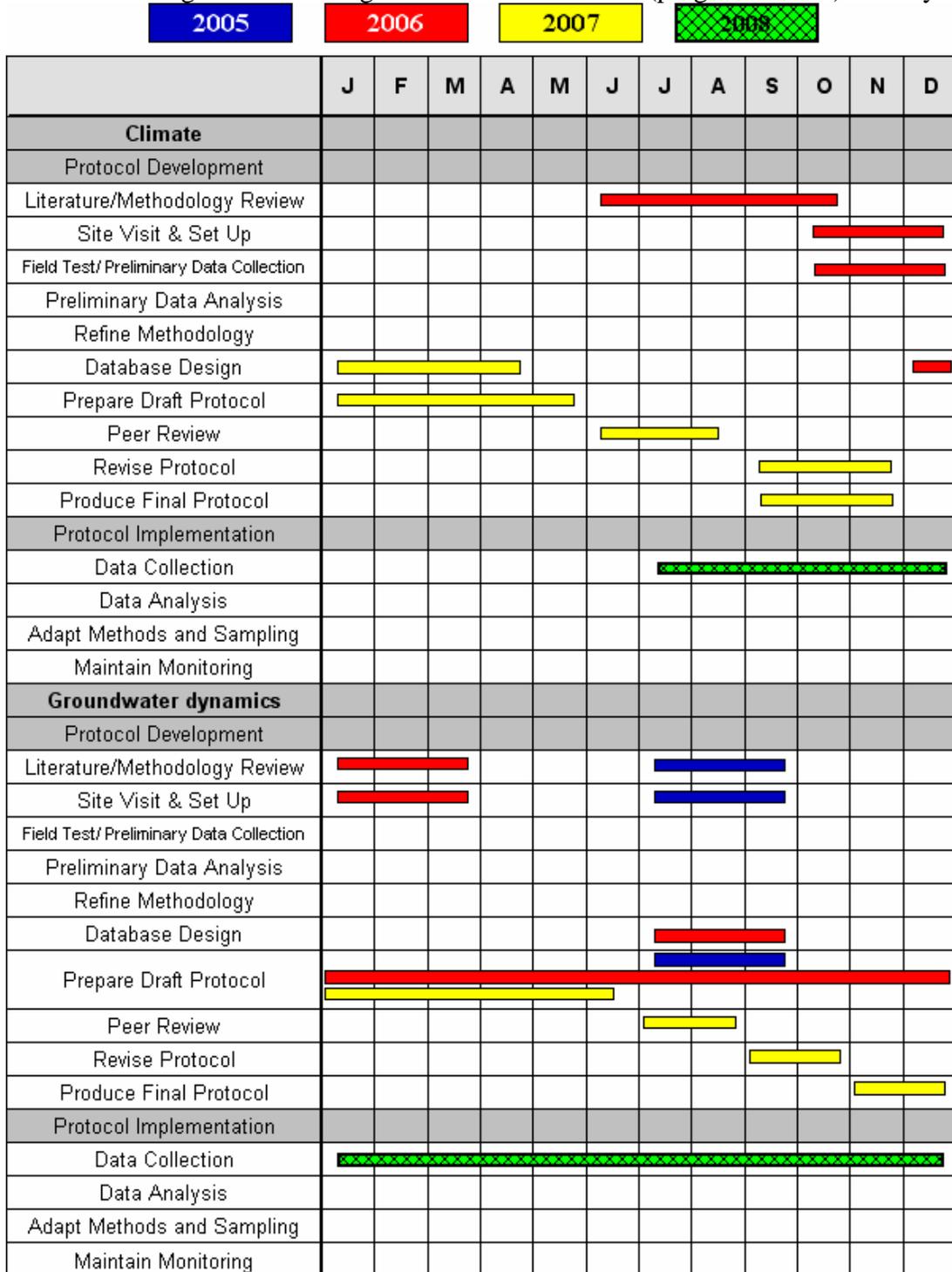
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This appendix portrays the phased approach to the development and implementation of phase 1 PACN Vital Signs monitoring protocols. Protocol development includes: site visits, testing methods, database design, preliminary data collection, analyses of preliminary data to determine adequate sample size, and refinement of sampling based on these analyses. Data collected after initial implementation will be analyzed and sampling methods adapted if necessary. This schedule demonstrates monitoring protocol development and implementation for 2005 – 2008 with the understanding that monitoring will continue thru 2011 (program review) and beyond.





	J	F	M	A	M	J	J	A	S	O	N	D
<b>Water chemistry</b>												
Protocol Development												
Literature/Methodology Review	[Blue bar from J to O]											
Site Visit & Set Up												
Field Test/Preliminary Data Collection				[Red bar from A to J]							[Red bar from N to D]	
Preliminary Data Analysis												
Refine Methodology												
Database Design	[Red bar from J to S]											
Prepare Draft Protocol	[Red bar from J to A]											
Peer Review	[Yellow bar]							[Red bar from J to D]				
Revise Protocol		[Yellow bar from F to M]										
Produce Final Protocol				[Yellow bar]								
Protocol Implementation												
Data Collection						[Yellow bar from J to D]						
Data Analysis												
Adapt Methods and Sampling												
Maintain Monitoring												
<b>Status and trends of established invasive plant communities</b>												
Protocol Development												
Literature/Methodology Review										[Blue bar from O to N]		
Site Visit & Set Up	[Red bar from J to J]											
Field Test/Preliminary Data Collection	[Red bar from J to J]											
Preliminary Data Analysis												
Refine Methodology										[Blue bar from O to N]		
Database Design						[Red bar]						
Prepare Draft Protocol								[Red bar from J to A]				
Peer Review								[Red bar from J to A]				
Revise Protocol									[Red bar from J to A]			
Produce Final Protocol									[Red bar from J to A]			
Protocol Implementation												
Data Collection	[Yellow bar from J to D]											
Data Analysis												
Adapt Methods and Sampling												
Maintain Monitoring												



	J	F	M	A	M	J	J	A	S	O	N	D
<b>Early detection of invasive plants and invertebrates</b>												
Protocol Development												
Literature/Methodology Review												
Site Visit & Set Up												
Field Test/ Preliminary Data Collection												
Preliminary Data Analysis												
Refine Methodology	█	█										
Database Design	█	█	█									
Prepare Draft Protocol	█	█	█									
Peer Review				█	█	█	█					
Revise Protocol							█	█	█			
Produce Final Protocol										█	█	
Protocol Implementation												
Data Collection	█	█	█									
Data Analysis				█	█	█						
Adapt Methods and Sampling							█	█	█			
Maintain Monitoring										█	█	█
<b>Benthic marine community</b>												
Protocol Development												
Literature/Methodology Review												
Site Visit & Set Up												
Field Test/ Preliminary Data Collection												
Preliminary Data Analysis												
Refine Methodology												
Database Design											█	█
Prepare Draft Protocol										█	█	
Peer Review	█	█	█	█	█	█						█
Revise Protocol						█	█					
Produce Final Protocol							█	█				
Protocol Implementation												
Data Collection				█	█	█	█	█	█	█	█	█
Data Analysis	█	█	█	█	█	█	█			█	█	
Adapt Methods and Sampling				█	█	█	█	█				
Maintain Monitoring									█	█	█	█



	J	F	M	A	M	J	J	A	S	O	N	D
<b>Marine fish</b>												
Protocol Development												
Literature/Methodology Review												
Site Visit & Set Up												
Field Test/ Preliminary Data Collection												
Preliminary Data Analysis												
Refine Methodology												
Database Design												
Prepare Draft Protocol												
Peer Review												
Revise Protocol												
Produce Final Protocol												
<b>Protocol Implementation</b>												
Data Collection												
Data Analysis												
Adapt Methods and Sampling												
Maintain Monitoring												
<b>Freshwater animal communities</b>												
Protocol Development												
Literature/Methodology Review												
Site Visit & Set Up												
Field Test/ Preliminary Data Collection												
Preliminary Data Analysis												
Refine Methodology												
Database Design												
Prepare Draft Protocol												
Peer Review												
Revise Protocol												
Produce Final Protocol												
<b>Protocol Implementation</b>												
Data Collection												
Data Analysis												
Adapt Methods and Sampling												
Maintain Monitoring												



	J	F	M	A	M	J	J	A	S	O	N	D
<b>Focal terrestrial plant communities</b>												
Protocol Development												
Literature/Methodology Review												
Site Visit & Set Up												
Field Test/ Preliminary Data Collection												
Preliminary Data Analysis												
Refine Methodology												
Database Design												
Prepare Draft Protocol												
Peer Review												
Revise Protocol												
Produce Final Protocol												
Protocol Implementation												
Data Collection												
Data Analysis												
Adapt Methods and Sampling												
Maintain Monitoring												
<b>Landbirds</b>												
Protocol Development												
Literature/Methodology Review												
Site Visit & Set Up												
Field Test/ Preliminary Data Collection												
Preliminary Data Analysis												
Refine Methodology												
Database Design												
Prepare Draft Protocol												
Peer Review												
Revise Protocol												
Produce Final Protocol												
Protocol Implementation												
Data Collection												
Data Analysis												
Adapt Methods and Sampling												
Maintain Monitoring												

2005      2006      2007      2008

	J	F	M	A	M	J	J	A	S	O	N	D
<b>Seabirds</b>												
Protocol Development												
Literature/Methodology Review		█										
Site Visit & Set Up					█							
Field Test/ Preliminary Data Collection					█							
Preliminary Data Analysis				█								
Refine Methodology						█						
Database Design						█						
Prepare Draft Protocol									█			
Peer Review	█											
Revise Protocol			█									
Produce Final Protocol				█								
Protocol Implementation												
Data Collection								█				
Data Analysis										█		
Adapt Methods and Sampling	█											
Maintain Monitoring					█							
<b>Bats</b>												
Protocol Development												
Literature/Methodology Review	█						█					
Site Visit & Set Up	█											
Field Test/ Preliminary Data Collection	█											
Preliminary Data Analysis							█					
Refine Methodology							█					
Database Design	█											
Prepare Draft Protocol	█											
Peer Review							█					
Revise Protocol										█		
Produce Final Protocol										█		
Protocol Implementation												
Data Collection	█											
Data Analysis				█								
Adapt Methods and Sampling						█						
Maintain Monitoring								█				

2005

2006

2007

2008

Land use patterns	J	F	M	A	M	J	J	A	S	O	N	D
Protocol Development												
Literature/Methodology Review	■									■	■	■
Site Visit & Set Up												
Field Test/Preliminary Data Collection			■	■	■	■	■					
Preliminary Data Analysis												
Refine Methodology	■	■					■					
Database Design												
Prepare Draft Protocol								■	■	■		
Peer Review										■	■	■
Revise Protocol	■	■										
Produce Final Protocol	■	■										
Protocol Implementation												
Data Collection		■	■	■	■	■						
Data Analysis						■	■	■	■			
Adapt Methods and Sampling									■	■	■	■
Maintain Monitoring												■